



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,077	12/14/2001	James L. Filson	W0484-700740	7531
37462	7590	04/22/2004	EXAMINER	
LOWRIE, LANDO & ANASTASI RIVERFRONT OFFICE ONE MAIN STREET, ELEVENTH FLOOR CAMBRIDGE, MA 02142			CINTINS, IVARS C	
		ART UNIT	PAPER NUMBER	
		1724		
DATE MAILED: 04/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/017,077	FILSON ET AL.	
	Examiner Ivars C. Cintins	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 23 January 2004.
- 2a) This action is **FINAL**.                                   2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 12-15,17-19,22,23,27,28 and 30-33 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 12-15 and 17-19 is/are allowed.
- 6) Claim(s) 22,23,27,28 and 30-33 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22, 23, 27, 28 and 30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The limitation that the slurry stream contains "at least about 50 mg/l solids" (claim 30, line 3) does not appear to be supported by the disclosure originally filed, and hence constitutes **new matter**. It is noted that a solids content higher than about 50 mg/l is supported by the specification (e.g. page 12, lines 14-15; and page 17, line 4); but an amount equal to 50 mg/l does not appear to be supported by this specification. Similarly, the recitation that the slurry has a "pH of less than about 7" (claim 30, lines 3-4) does not appear to be supported by the disclosure originally filed, and hence constitutes **new matter**. Again, it is noted that pH values between 6 and 7 are supported by the specification (page 17, line 15; and page 22, line 13), and even pH values between 2-3 are supported by this specification (page 25, lines 19-20), but all other values less than 7 do not appear to be supported by this specification. Claims 22, 23, 27 and 28 depend from claim 30, and therefore suffer similarly.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winston (U.S. Patent No. 5,348,588) in view of Katzakian et al. (U.S. Patent No. 3,928,192). Winston discloses a system comprising a collection tank (14), a circulation line (18) connected to the collection tank, an activated carbon column (26) connected to the collection line, and an ion exchange column (32) connected to the carbon column (see col. 9, lines 2-3). Applicant should note that the system of Winston is inherently capable of being connected to the discharge line of a CMP system, and this capability is all that is required by the term "connectable" as recited in line 3 of claim 31. Accordingly, this primary reference discloses the claimed invention with the exception of the type of ion exchange resin employed. Katzakian et al. discloses (see col. 5, line 63 through col. 6, line 1) that chelating resins having a polystyrene component and iminodiacetic acid functional groups can function as weak acid cation exchange resins; and therefore; it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the iminodiacetic acid polystyrene resin of Katzakian et al. for the weak acid cation exchange resin of Winston (see col. 9, lines 13 and 16), since this secondary reference resin is capable of removing ions from water in substantially the same manner as the ion exchange resin of the primary reference, to produce substantially the same results. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ resins having the bead size recited in claim 33 in the system of the thus modified primary reference, in order to promote contact between this resin and the liquid undergoing treatment.

Claims 12-15 and 17-19 are allowed because the references of record do not teach or fairly suggest a system comprising a source of CMP effluent connected to an activated carbon bed which is connected to an ion exchange unit containing chelating ion exchange resin.

Casolo (U.S. Patent No. 3,985,648) and Helmig (U.S. Patent No. 5,437,797) show liquid purification systems having an activated carbon column connected to a chelating resin column (see Fig. 1 of Casolo; and col. 1, lines 64-68 and col. 3, lines 7-8 of Helmig).

Applicant's arguments filed September 17, 2003 have been noted and carefully considered but no longer appear to be relevant in view of the new grounds of rejection.

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (571) 272-1156.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Ivars Cintins*  
Ivars C. Cintins  
Primary Examiner  
Art Unit 1724

I. Cintins  
April 18, 2004